

REMARKS

Applicant respectfully requests consideration and allowance of the subject application. Applicant's amendments and remarks are in response to a Final Office Action dated April 22, 2002 and a subsequent Advisory Action dated September 9, 2002.

Claims 1-15 and 22-32 are pending, of which claims 1, 6, 11, 23, and 28 have been amended. The amendment to claims 1, 6, 11, 23, and 28 are for clarification, and are not to overcome prior art.

35 U.S.C. §103

Claims 1-15 and 22 are rejected under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 6,012,083 to Savitzky et al. (hereinafter, “Savitzky”), in view of U.S. Patent No. 5,956,483 to Grate et al. (hereinafter, “Grate”) (*Final Office Action* p.2). It is noted that Microsoft is the owner of both the present application and Grate.

Although the Office does not initially indicate that claims 23-32 are rejected on page 2 of the Final Office Action, the claims appear to be rejected under 35 U.S.C. §103(a) for obviousness over Savitzky in view of Grate (*Final Office Action* pp.5-6). Accordingly, this response is based on the premise that claims 23-32 are rejected in view of the Savitzky-Grate combination. Applicant requests that the Office indicate the basis for rejecting claims 23-32 if otherwise.

Savitzky describes a third-party “agency” computing system that is interposed between one or more Web clients and one or more Web servers to interact with the clients and servers to transfer documents (col. 3, lines 32-37).

1 The Web clients and Web servers communicate documents via the agency with
2 HTTP (hypertext transfer protocol) over a communication channel, such as the
3 Internet (col. 5, lines 6-12).

4 Savitzky refers to applets, stating that “client-side code execution is limited
5 to documents in which a server has included applets and is limited to use with
6 applet-aware browsers” (col. 2, lines 41-43). This is essentially described in the
7 “Background” section of Applicant’s Specification and is an example of the very
8 prior art that Applicant sought to overcome. Applets, by their very nature, raise
9 security issues for local computer systems. In general, computer programs can be
10 configured to cause harm to the local computer system. (*Specification* p.2, lines
11 24-26). Applet viewers prevent harm from execution of an applet. For example,
12 applets are prevented by an applet viewer from writing data to any persistent
13 storage, thus protecting current contents of the persistent storage. (*Specification*
14 p.3, lines 2-7). A disadvantage of the isolation of applets is that other computer
15 processes executing concurrently with and independently of the applet viewer
16 cannot communicate with the applets. (*Specification* p.3, line 28 - p.4, line 1).

17 Grate describes a method for embedding client-side function calls within
18 HTML (hypertext markup language) content such that a user can initiate an
19 embedded function call by clicking on a corresponding button or link while
20 viewing a document with a standard Web browser (col. 3, lines 13-22). Web
21 function calling protocols are embodied within client and server software
22 components which provide for the exchange of information between Web users
23 and online merchants over the Internet (col. 3, lines 37-42).

24 Contrary to Savitzky and Grate, Applicant claims receiving a request for a
25 document from an applet, where the request specifies a function, the execution of

1 which performs a task that is unrelated to both generation and retrieval of any
2 document specified in the request (*see* claim 1, for example). Applicant describes
3 an interprocess communication mechanism in which applets can receive and
4 respond to processing requests of other computer processes, and which can send
5 processing requests to such other computer processes without requiring
6 modification of applet viewers. Additionally, computer system security is
7 preserved with interprocess communication because an applet is denied direct
8 access to computer system resources. (*Specification* p.5, lines 24-25).

9
10 **Claim 1** recites a method for serving remote procedure calls from an
11 applet which executes within an applet viewer which in turn executes in a
computer system that is serving said remote procedure calls, the method
comprising:

12 receiving from the applet which executes in the same computer
13 system that serves said remote procedure calls, a request for a document
according to a document retrieval protocol implemented on a computer
network;

14 determining that the request specifies a function which is defined
15 within a computer process executing independently of the applet and applet
viewer and which includes one or more computer instructions, execution of
16 which performs a task which is unrelated to both generation and retrieval of
any document specified in the request; and

17 executing the function in the same computer system that is executing
18 said applet and applet viewer to thereby cause execution of the one or more
computer instructions in response to receipt of the request.

19
20 Savitzky and/or Grate do not teach or suggest the combination of elements
recited in claim 1. Both Savitzky and Grate describe client *and* server systems
communicating information between the systems via the Internet. However,
claim 1 recites “an applet which executes within an applet viewer which in turn

1 executes in a computer system”, “the applet which executes in the same computer
2 system”, and “executing the function in the same computer system that is
3 executing said applet and applet viewer.” Neither Savitzky nor Grate teach or
4 suggest the combination of elements recited in claim 1 in a “same computer
5 system” environment.

6 Furthermore, Savitzky does not teach or suggest both a request for a
7 document *and* “determining that the request specifies a function..., execution of
8 which performs a task which is unrelated to both generation and retrieval of any
9 document specified in the request”, as recited in claim 1.

10 The Office contends that Savitzky at col. 1, line 63 through col. 2, line 43
11 teaches the elements of claim 1 (*Final Office Action* pp.2-3). Applicant disagrees
12 with this contention because the cited section of Savitzky describes examples of
13 server-client communications that teach away from Applicant’s claim 1. For
14 example, the Office cites that Savitzky describes a client sending a document
15 request to a server for a document in the form of a URL that refers to a program on
16 the server (Savitzky col. 2, lines 1-5). The Office disregards, however, that
17 Savitzky continues the description with “[t]he server generates a document in
18 accordance with the program and returns that document to the browser.” (Savitzky
19 col. 2, lines 5-7). This is expressly contrary to the execution of a function “which
20 performs a task which is *unrelated* to both generation and retrieval of any
21 document specified in the request”, as recited in claim 1. To return a document to
22 a client browser, the document request of Savitzky would be related to the
23 retrieval of the document.

24 With regards to “applets”, Savitzky describes that “[w]ith client-side code
25 execution, the client requests a document and the returned document contains

1 program code embedded in the document ..." which can be used for such tasks as
2 animating graphic elements of a document (*Savitzky* col. 2, lines 25-31). This is
3 also expressly contrary to "a request for a document" and "determining that the
4 request specifies a function..., execution of which performs a task which is
5 *unrelated* to both generation and retrieval of any document specified in the
6 request", as positively recited in claim 1.

7 The Office states that it would be obvious that the applet generates the
8 request since the request for a document is generated with client-side code
9 execution and that "the script execution of generating the document is unrelated to
10 the actual retrieval of the document" (*Office Action* p.3). Applicant disagrees that
11 generating a document is unrelated to the retrieval of the document, as the Office
12 contends. *Savitzky* clearly describes that "the server generates a document in
13 accordance with the program and returns that document to the browser" (*Savitzky*
14 col. 2, lines 5-7), and that with applets, the client requests a document and the
15 returned document contains program code embedded in the document" (*Savitzky*
16 col. 2, lines 25-27). Further, "client-side code execution is limited to documents
17 in which a server has included applets" (*Savitzky* col. 2, lines 25-27).

18 Grate also does not teach both a request for a document *and* "determining
19 that the request specifies a function..., execution of which performs a task which
20 is unrelated to both generation and retrieval of any document specified in the
21 request", as recited in claim 1. Grate says nothing about calling or requesting a
22 function with a request for a document having an encoded remote procedure
23 calling request, as claimed by the Applicant. To the contrary, Grate describes a
24 simple, text-based format for embedding function calls within HTML documents
25 (*Grate* col. 10, lines 45-47).

1 Accordingly, claim 1 is allowable over the Savitzky-Grate combination and
2 Applicant respectfully requests that the §103 rejection be withdrawn.

3

4 **Claims 2-5 and 22** are allowable by virtue of their dependency upon
5 claim 1. Additionally, claims 3 and 4 are allowable over the Savitzky-Grate
6 combination for independent reasons.

7 Claims 3 and 4 recite “returning to the applet result data produced by
8 execution of the function” (claim 3), and “forming a document which includes the
9 data and sending the document to the applet” (claim 4).

10 The additional elements recited in claim 4 is that result data produced by
11 execution of the function (of claim 1) is included into a document and the
12 document is sent to the applet. Neither Savitzky nor Grate teaches “forming a
13 document which includes the data”, and “sending the document to the applet”, as
14 recited in claim 4.

15 The Office contends that Savitzky at col. 2, lines 10-14, teaches forming a
16 document which includes the data and sending the document to the applet in a
17 “dynamic document of server side code execution” (*Office Action* p.4). Applicant
18 disagrees that the document of Savitzky includes *the results of a function*,
19 execution of which performs a task which is unrelated to both generation and
20 retrieval of any document specified in the request, as recited in the combination of
21 claims 1, 3, and 4. Accordingly, claims 3 and 4 are allowable over the Savitzky-
22 Grate combination.

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1 **Claim 6** recites “receiving from the applet … a request for a document”,
2 and “determining that the request specifies a function which is defined within a
3 computer process executing independently of the applet and applet viewer and
4 which includes one or more selected computer instructions, execution of which
5 performs a task which is unrelated to both generation and retrieval of any
6 document specified in the request.”

7 As described above in the response to the rejection of claim 1, Savitzky
8 and/or Grate do not teach or suggest both a request for a document *and*
9 “determining that the request specifies a function which is defined within a
10 computer process executing independently of the applet and applet viewer…,
11 execution of which performs a task which is unrelated to both generation and
12 retrieval of any document specified in the request”, as recited in claim 6.

13 Accordingly, claim 6 is allowable over the Savitzky-Grate combination and
14 Applicant respectfully requests that the §103 rejection be withdrawn.

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16 **Claims 7-10** are allowable by virtue of their dependency upon claim 6.
17 Additionally, claims 8 and 9 are allowable over the Savitzky-Grate combination
18 for independent reasons.

19 Claims 8 and 9 recite “returning to the applet result data produced by
20 execution of the function” (claim 8), and “forming a document which includes the
21 result data and sending the document to the applet” (claim 9).

22 As described above in the response to the rejection of claims 3 and 4,
23 neither Savitzky nor Grate teaches “forming a document which includes the result
24 data”, and “sending the document to the applet”, as recited in claim 9. The
25 document of Savitzky does not include the results of a function, execution of

1 which performs a task which is unrelated to both generation and retrieval of any
2 document specified in the request, as recited in the combination of claims 6, 8,
3 and 9. Accordingly, claims 8 and 9 are allowable over the Savitzky-Grate
4 combination.

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6 **Claim 11** recites “receiving from the applet … a request for a document”
7 and “determining that the request specifies a function which is defined within the
8 computer process and which includes one or more computer instructions,
9 execution of which performs a task which is unrelated to both generation and
10 retrieval of any document specified in the request.”

11 As described above in the response to the rejection of claim 1, Savitzky
12 and/or Grate do not teach or suggest both a request for a document *and*
13 “determining that the request specifies a function which is defined within the
14 computer process and which includes one or more computer instructions,
15 execution of which performs a task which is unrelated to both generation and
16 retrieval of any document specified in the request”, as recited in claim 11.

17 Accordingly, claim 11 is allowable over the Savitzky-Grate combination
18 and Applicant respectfully requests that the §103 rejection be withdrawn.

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20 **Claims 12-15** are allowable by virtue of their dependency upon claim 11.
21 Additionally, claims 13 and 14 are allowable over the Savitzky-Grate combination
22 for independent reasons.

23 **Claims 13 and 14** recite “returning to the applet result data produced by
24 execution of the function” (claim 13), and “forming a document which includes
25 the result data and sending the document to the applet” (claim 14).

1 As described above in the response to the rejection of claims 3 and 4,
2 neither Savitzky nor Grate teaches “forming a document which includes the result
3 data”, and “sending the document to the applet”, as recited in claim 14. The
4 document of Savitzky does not include the results of a function, execution of
5 which performs a task which is unrelated to both generation and retrieval of any
6 document specified in the request, as recited in the combination of claims 11, 13,
7 and 14. Accordingly, claims 13 and 14 are allowable over the Savitzky-Grate
8 combination.

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10 **Claim 23** recites a method for serving remote procedure calls
11 received from an instruction set that executes within a first computer
process, the first computer process executing in a computing device that
serves the remote procedure calls, the method comprising:

12 receiving a request for a data file from the instruction set, the request
13 according to a data file retrieval protocol;

14 determining that the request for the data file specifies a function
15 which is defined within a second computer process executing in the
computing device independently of the instruction set and of the first
16 computer process, the function including one or more computer
instructions, execution of which performs a task which is unrelated to both
17 generation and retrieval of any data file specified in the request; and

18 executing the function in the computing device to execute the one or
19 more computer instructions in response to receipt of the request.

20
21 Savitzky and/or Grate do not teach or suggest the combination of elements
22 recited in claim 23 in a single computing device environment. Both Savitzky and
23 Grate describe client *and* server systems communicating information between the
systems via the Internet. However, claim 23 describes first and second computer
24 processes, and executing a function, in the same computing device.
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1 Furthermore, neither Savitzky nor Grate teach or suggest both a request for
2 a data file *and* “determining that the request for the data file specifies a
3 function..., execution of which performs a task which is unrelated to both
4 generation and retrieval of any data file specified in the request”, as recited in
5 claim 23.

6 Similarly to the rejection of claim 1, the Office contends that Savitzky
7 teaches the elements of claim 23 (*Office Action* pp.5-6). As described above in the
8 response to the rejection of claim 1, Savitzky describes examples of server-client
9 communications that teach away from Applicant’s claim 23. For example,
10 Savitzky describes a client sending a document request to a server for a document
11 in the form of a URL that refers to a program on the server and the server
12 generates a document in accordance with the program and returns that document
13 to the browser (*Savitzky* col. 2, lines 1-7). This is expressly contrary to the
14 execution of a function “which performs a task which is *unrelated* to both
15 generation and retrieval of any data file specified in the request”, as recited in
16 claim 23.

17 The Office states that it would be obvious “the script execution of
18 generating the document is unrelated to the actual retrieval of the document” in
19 Savitzky (*Office Action* p.5). Applicant disagrees that generating a document is
20 unrelated to the retrieval of the document as the Office contends because Savitzky
21 clearly describes that “the server generates a document in accordance with the
22 program and returns that document to the browser” (*Savitzky* col. 2, lines 5-7), and
23 that with applets, the client requests a document and the returned document
24 contains program code embedded in the document” (*Savitzky* col. 2, lines 25-27).
25 Further, “client-side code execution is limited to documents in which a server has

1 included applets" (*Savitzky* col. 2, lines 25-27).

2 Accordingly, claim 23 is allowable over the Savitzky-Grate combination
3 and Applicant respectfully requests that the §103 rejection be withdrawn.

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5 **Claims 24-27** are allowable by virtue of their dependency upon claim 23.
6 Additionally, claim 26 is allowable over the Savitzky-Grate combination for
7 independent reasons. Claim 26 recites that "returning the result data comprises
8 generating a document which includes the result data, and sending the document
9 to the first computer process."

10 As described above in the response to the rejection of claim 4, neither
11 Savitzky nor Grate teaches "generating a document which includes the result
12 data", and "sending the document to the first computer process", as recited in
13 claim 26. The document of Savitzky does not include the result data *of a function*,
14 execution of which performs a task which is unrelated to both generation and
15 retrieval of any data file specified in the request, as recited in the combination of
16 claims 23 and 26. Accordingly, claim 26 is allowable over the Savitzky-Grate
17 combination.

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19 **Claim 28** recites "receiving a request for a data file" and "determining that
20 the request for the data file specifies a function..., execution of which performs a
21 task which is unrelated to both generation and retrieval of any data file specified in
22 the request".

23 As described above in the response to the rejection of claim 23, Savitzky
24 and/or Grate do not teach or suggest both a request for a data file *and*
25 "determining that the request for the data file specifies a function..., execution of

1 which performs a task which is unrelated to both generation and retrieval of any
2 data file specified in the request”, as recited in claim 28.

3 Accordingly, claim 28 is allowable over the Savitzky-Grate combination
4 and Applicant respectfully requests that the §103 rejection be withdrawn.
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6 **Claims 29-32** are allowable by virtue of their dependency upon claim 28.
7 Additionally, claim 31 is allowable over the Savitzky-Grate combination for
8 independent reasons. Claim 31 recites that “returning the result data comprises
9 generating a document which includes the result data, and sending the document
10 to the second computer process.”

11 As described above in the response to the rejection of claim 26, neither
12 Savitzky nor Grate teaches “generating a document which includes the result
13 data”, and “sending the document to the second computer process”, as recited in
14 claim 31. The document of Savitzky does not include the result data of a function,
15 execution of which performs a task which is unrelated to both generation and
16 retrieval of any data file specified in the request, as recited in the combination of
17 claims 28 and 31. Accordingly, claim 31 is allowable over the Savitzky-Grate
18 combination.
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1 **Conclusion**

2 Pending claims 1-15 and 22-32 are in condition for allowance. Applicant
3 respectfully requests consideration and issuance of the subject application. If any
4 issues remain that preclude issuance of this application, the Examiner is urged to
5 contact the undersigned attorney before issuing a subsequent Action.

6

7 Respectfully Submitted,

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9 Dated: Oct 22, 2002

10 By:

11 
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1 **Version of amended claims with markings to show changes made**

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3 1. **(Twice Amended)** A method for serving remote procedure calls
4 from an applet which executes within an applet viewer which in turn executes in a
5 computer system that is serving said remote procedure calls, the method
6 comprising:

7 receiving from the applet which executes in the same computer system that
8 serves said remote procedure calls, a request for a document according to a
9 document retrieval protocol implemented on a computer network;

10 determining that the request specifies a function which is defined within a
11 computer process executing independently of the applet and applet viewer and
12 which includes one or more computer instructions, execution of which performs a
13 task which is unrelated to both generation and retrieval of any document specified
14 in the request; and

15 executing the function in the same computer system that is executing said
16 applet and applet viewer to thereby cause execution of the one or more computer
17 instructions in response to receipt of the request.

1 **6. (Twice Amended)** A computer readable medium useful in
2 association with a computer system which includes a processor and a memory, the
3 computer readable medium including computer instructions which are configured
4 to cause the computer to serve remote procedure calls from an applet, which
5 executes within an applet viewer which in turn executes in the computer system
6 that is serving said remote procedure calls, by performing the steps of:

7 receiving from the applet which executes in the same computer system that
8 serves said procedure calls, a request for a document according to a document
9 retrieval protocol implemented on a computer network;

10 determining that the request specifies a function which is defined within a
11 computer process executing independently of the applet and applet viewer and
12 which includes one or more selected computer instructions, execution of which
13 performs a task which is unrelated to both generation and retrieval of any
14 document specified in the request; and

15 executing the function in the same computer system that is executing said
16 applet and applet viewer to thereby cause execution of the one or more selected
17 computer instructions in response to receipt of the request.

1 **11. (Three times Amended)** A computer system comprising:
2 a processor;
3 a memory operatively coupled to the processor; and
4 a computer process which executes in the processor from the memory and
5 which, when executed, serves remote procedure calls received from an applet
6 which executes within an applet viewer which in turn executes in the processor
7 from the memory concurrently and independently from the computer process,
8 wherein the computer process serves the remote procedure calls by performing the
9 steps of:

10 receiving from the applet which executes in the same computer system that
11 serves remote procedure calls, a request for a document according to a document
12 retrieval protocol implemented on a computer network;

13 determining that the request specifies a function which is defined within the
14 computer process and which includes one or more computer instructions,
15 execution of which performs a task which is unrelated to both generation and
16 retrieval of any document specified in the request; and

17 executing the function in the same computer system that is executing said
18 applet and applet viewer to thereby cause execution of the one or more computer
19 instructions in response to receipt of the request.

1 **23. (Amended)** A method for serving remote procedure calls received
2 from an instruction set that executes within a first computer process, the first
3 computer process executing in a computing device that serves the remote
4 procedure calls, the method comprising:

5 receiving a request for a data file from the instruction set, the request
6 according to a data file retrieval protocol;

7 determining that the request for the data file specifies a function which is
8 defined within a second computer process executing in the computing device
9 independently of the instruction set and of the first computer process, the function
10 including one or more computer instructions, execution of which performs a task
11 which is unrelated to both generation and retrieval of any data file specified in the
12 request; and

13 executing the function in the computing device to execute the one or more
14 computer instructions in response to receipt of the request.

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1 **28. (Amended)** A computer system comprising:

2 a processor;

3 a memory operatively coupled to the processor; and

4 a first computer process configured to execute in the processor from the
5 memory, the first computer process further configured to serve remote procedure
6 calls received from an instruction set that executes within a second computer
7 process, the second computer process configured to execute in the processor from
8 the memory concurrently and independently of the first computer process, wherein
9 the first computer process serves the remote procedure calls by:

10 receiving a request for a data file from the instruction set, the request
11 according to a data file retrieval protocol;

12 determining that the request for the data file specifies a function which is
13 defined within the first computer process, the function including one or more
14 computer instructions, execution of which performs a task which is unrelated to
15 both generation and retrieval of any data file specified in the request; and

16 executing the function in the computing device to execute the one or more
17 computer instructions in response to receipt of the request.